

**REMARKS**

Claims 1-11, 15-17, 34 and 35 are pending herein.

By this Amendment, claim 1 is amended to incorporate the subject matter of claims 12 and 13 and claims 12 and 13 are correspondingly canceled. Claims 34 and 35 are added.

No new matter is added by this Amendment. Support for the language added by new claims 34 and 35 is found in the original specification and claims. In particular, support for new claim 34 is found in original claims 1 and 13 as well as at, for example, paragraph [0054] of the specification. Support for new claim 35 is found in original claim 1, and at, for example, Figure 1.

Entry of the amendments is proper under 37 CFR §1.116 since the amendments: (a) place the application in condition for allowance for the reasons discussed herein; (b) do not raise any new issue requiring further search and/or consideration since the amendments amplify issues previously discussed throughout prosecution; (c) do not present any additional claims without canceling a corresponding number of finally rejected claims; and (d) place the application in better form for appeal, should an appeal be necessary. The amendments are necessary and were not earlier presented because they are made in response to arguments raised in the final rejection. Entry of the amendments is thus respectfully requested.

**I. Rejections Under 35 U.S.C. §103(a)**

**A. Koketsu in view of Adachi**

Claims 1, 4-8, 11 and 15 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over JP 402179880 (herein after "Koketsu") in view of JP 04035033 (hereinafter ("Adachi")). This rejection is respectfully traversed.

Claim 1 recites, in part, a method for manufacturing ceramics on a substrate, wherein ceramic film is formed on a partial portion of the substrate by an LSMCD process or a misted CVD process, wherein the method includes a step of forming a film-forming region having

affinity to ceramics to be formed, and a non-film-forming region having no affinity to the ceramics to be formed, thereby self-alignably forming a ceramic film in the film-forming region wherein the film-forming region is the partial portion of the substrate.

The Office Action acknowledges that Koketsu and Adachi each fail to teach a film-forming region on a substrate having an affinity for ceramics with a non-film-forming region having no affinity for ceramics. Thus, as acknowledged by the Patent Office, Koketsu and Adachi fail to render obvious claim 1.

Reconsideration and withdrawal of the rejection are thus respectfully requested.

**B. Paz in view of Adachi**

Claims 1, 4-11 and 15-17 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,110,531 (hereinafter "Paz") in view of Adachi. This rejection is respectfully traversed.

As discussed above, the Office Action acknowledges that Adachi fails to teach a film-forming region on a substrate having an affinity for ceramics with a non-film-forming region having no affinity for ceramics, as recited in claim 1.

Nothing in Paz remedies this deficiency. Thus, Paz and Adachi, whether alone or in combination, fail to teach or suggest the subject matter of claim 1, or the claims dependent therefrom.

Reconsideration and withdrawal of the rejection are respectfully requested.

**C. Koketsu in view of Adachi and further in view of Chivukula**

Claims 2 and 3 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Koketsu in view of Adachi and further in view of U.S. Patent No. 6,146,905 (hereinafter "Chivukula"). This rejection is respectfully traversed.

Claims 2 and 3 depend from claim 1.

As discussed above, the Office Action acknowledges that Koketsu and Adachi each fail to teach a film-forming region on a substrate having an affinity for ceramics with a non-film-forming region having no affinity for ceramics, as recited in claim 1.

Nothing in Chivukula remedies this deficiency. Thus, Koketsu, Adachi and/or Chivukula, whether alone or in combination, fail to teach or suggest the subject matter of claim 1 or claims 2 and 3 dependent therefrom.

Reconsideration and withdrawal of the rejection are respectfully requested.

**D. Koketsu in view of Adachi and further in view of Hintermaier**

Claims 12 and 13 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Koketsu in view of Adachi and further in view of U.S. Patent No. 6,120,846 (hereinafter "Hintermaier"). This rejection is respectfully traversed.

Claims 12 and 13 are herein canceled. Thus, with respect to claims 12 and 13, this rejection is moot. However, claim 1 is amended to incorporate the subject matter of claims 12 and 13.

The Office Action acknowledges that Koketsu and Adachi each fail to teach a film-forming region on a substrate having an affinity for ceramics with a non-film-forming region having no affinity for ceramics. However, the Office Action alleges that Hintermaier remedies this deficiency. More specifically, the Office Action alleges that Hintermaier teaches a ferroelectric dielectric material that is selectively deposited on a bottom electrode (18) (having affinity to ceramics) and not deposited on the base member (11) (not having affinity to ceramics).

However, Hintermaier teaches the presence of two substrates, a bottom electrode 18 and a base member 11. See col. 4, lines 18-43 of Hintermaier. Deposition of  $\text{SrBi}_2\text{Ta}_2\text{O}_9$  (SBT) occurs preferentially on the bottom electrode and either does not deposit on the substrate base or does so to a limited extent. Id. The bottom electrode is initially provided

with a high density of absorption sites, and an electrode material is chosen which is catalytically active. Id. The base substrate offers a small number of absorption sites and is not catalytically active. Id. As shown in Figure 1C, Hintermaier teaches that the bottom electrode 18 and the base member 11 are clearly two distinct layers.

Whereas the claimed invention requires a single substrate (i.e., a film-forming region on a substrate having an affinity for ceramics with a non-film-forming region on the same substrate having no affinity for ceramics).

In other words, Hintermaier fails to teach or suggest a film-forming region having an affinity to ceramics to be formed, and a non-film-forming region having no affinity to the ceramics to be formed, thereby self-alignably forming a ceramic film in the film-forming region, wherein the ceramic film is formed on a partial portion of the substrate and the film-forming region is the partial portion of the substrate, as recited in claim 1.

For at least the foregoing reasons, Applicant submits the rejection has been overcome and claim 1, as well as the claims dependent therefrom, are in condition for allowance. Reconsideration and withdrawal of the rejection are thus respectfully requested.

**E. New Claims 34 and 35**

**1. Claim 34**

In a communication from the Patent Office dated June 4, 2004, the Patent Office suggested a claim that would overcome the cited references of record. Applicant herein adds claim 34 including the limitations suggested by the Patent Office. Applicant submits that claim 34, as acknowledged by the Patent Office, is allowable.

**2. Claim 35**

Claim 35 recites, in part, a method for manufacturing ceramics on a substrate, comprising mixing a fine particle of a raw material species which becomes at least part of raw materials for ceramics with an active species having high kinetic energy in a mixing chamber

and after mixing the fine particle and active species in the mixing chamber, feeding the mixed fine particle and active species from the mixing chamber to the substrate in a separate chamber.

None of the cited references of record teach the limitations of claim 35.

Instead, Koketsu discloses feeding the mist into oxygen plasma and depositing formed oxide ceramic on a substrate. See the Abstract. As is clearly described and shown in the Figure of Koketsu, the feeding of the mist into the oxygen plasma and depositing the oxide ceramic on the substrate occur in the same chamber (tube 4). In other words, no active species is mixed with the fine particles in a chamber separate from the deposition chamber where the substrate is located. See the constitution of Koketsu. Thus, Koketsu fails to disclose mixing a fine particle species with an active species in a separate chamber prior to feeding the mixed fine particle and active species from the chamber to the chamber housing the substrate.

Paz discloses at col. 5, lines 22-30 that the carrier gas may be inert or "active". However, here "active" is merely referring to reactive and not to active species. More specifically, inert means not reactive and active must therefore mean reactive. At col. 6, lines 12-25, Paz clearly indicates that the active species is not formed until in the deposition chamber 2 with the substrate (Paz here describing disassociation of materials, i.e., activation). Thus, Paz also fails to disclose mixing a fine particle species with an active species in a separate chamber prior to feeding the mixed fine particle and active species from the separate chamber to the chamber housing the substrate.

Adachi and Chivukula fail to remedy the deficiencies of Koketsu and Paz discussed above. That is, Koketsu, Paz, Adachi and Chivukula, in any combination, fail to teach or suggest a method for manufacturing ceramics on a substrate, comprising mixing a fine particle of a raw material species which becomes at least part of raw materials for ceramics with an

active species having high kinetic energy in a mixing chamber and after mixing the fine particle and active species in the chamber, feeding the mixed fine particle and active species from the mixing chamber to a separate chamber housing the substrate, as recited in claim 35.

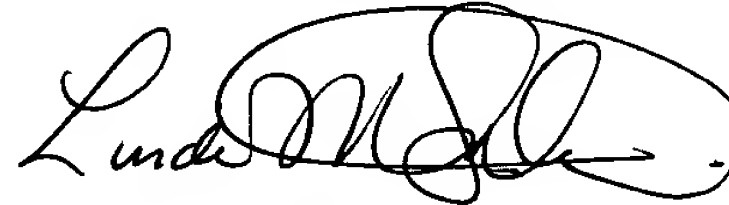
For the foregoing reasons, Applicant submits claim 35 is also allowable over the cited references.

#### IV. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-11, 15-17, 34 and 35 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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